GROUNDWATER MONITORING SYSTEM CERTIFICATION
40 CFR 257.91(f)
W.A. Parish Station
Thompsons, Texas

The United States Environmental Protection Agency's (EPA's) "Disposal of Coal Combustion Residuals from Electric Utilities" Final Rule (40 C.F.R. Part 257 and Part 261), §257.91, requires the owner or operator of an existing CCR unit to install a groundwater monitoring system. The owner or operator must obtain a certification from a qualified professional engineer stating that the groundwater monitoring system has been designed and constructed to meet the requirements of 40 C.F.R. Part 257.91.

According to 40 CFR §257.91(a), the groundwater monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer that:

1. Accurately represent the quality of background groundwater that has not been affected by leakage from a CCR unit; and
2. Accurately represent the quality of groundwater passing the waste boundary of the CCR unit.

40 CFR §257.91(b) states that the number, spacing, and depths of groundwater monitoring system must be determined based upon site-specific technical information that must include a characterization of:

1. Aquifer thickness, groundwater flow rate, groundwater flow direction, including seasonal and temporal fluctuations in groundwater flow; and
2. Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer, including, but not limited to, thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

The monitoring networks were installed at the active CCR Units at the NRG Texas Power, LLC W.A. Parish Electric Generating Station and meet the requirements above. Single unit monitoring networks were installed for each of the following units: Solid Waste Disposal Area (SWMU 001) (Active CCR Units - Landfill Cell 1C, Pug Mill / Landfill Cell 2A, Landfill Cell 2B, and Landfill Cell 3), FGD Emergency Pond (SWMU 020), and Air Preheater Wash Pond (SWMU 021).

Additionally, 40 CFR §257.91(c) states that if the groundwater monitoring system includes the minimum number of monitoring wells specified in 40 CFR §257.91(c)(1) then this certification must document the basis supporting that the minimum number of wells meets the requirements of 40 C.F.R. Part 257.91. The groundwater monitoring systems at the Pug Mill / Landfill Cell 2A (Part of SWMU 001), FGD Emergency Pond (SWMU 020), and Air Preheater Wash Pond (SWMU 021) consist of one upgradient well, up to three cross gradient wells, and three downgradient wells. Unit specific details are summarized in Table 1 below.

TABLE 1: CCR Unit Monitoring Network Characteristics

Characteristic	Pug Mill / Landfill Cell 2A (Part of SWMU 001)	FGD Emergency Pond (SWMU 020)	Air Preheater Wash Pond (SWMU 021)
Size (acres)	6	0.5	1.2
Maximum Downgradient Well Spacing (feet)	200	250	315
Approximate Downgradient Unit Boundary Length (feet)	500	100	470

Due to the small unit sizes and close well spacing of these ground water monitoring networks, any release from these units is anticipated to spread laterally via diffusion and dispersion sufficiently to be detected in at least one downgradient well. Therefore, these systems meet the requirements as outlined above.

CERTIFICATION

I hereby certify that the groundwater monitoring system for the CCR Units located at the NRG Texas Power, LLC W.A. Parish Electric Generating Station have been designed and constructed to meet the requirements of 40 C.F.R. Part 257.91:

Chris Cunningham, P.E.
Licensed State of Texas, PE No. 94591